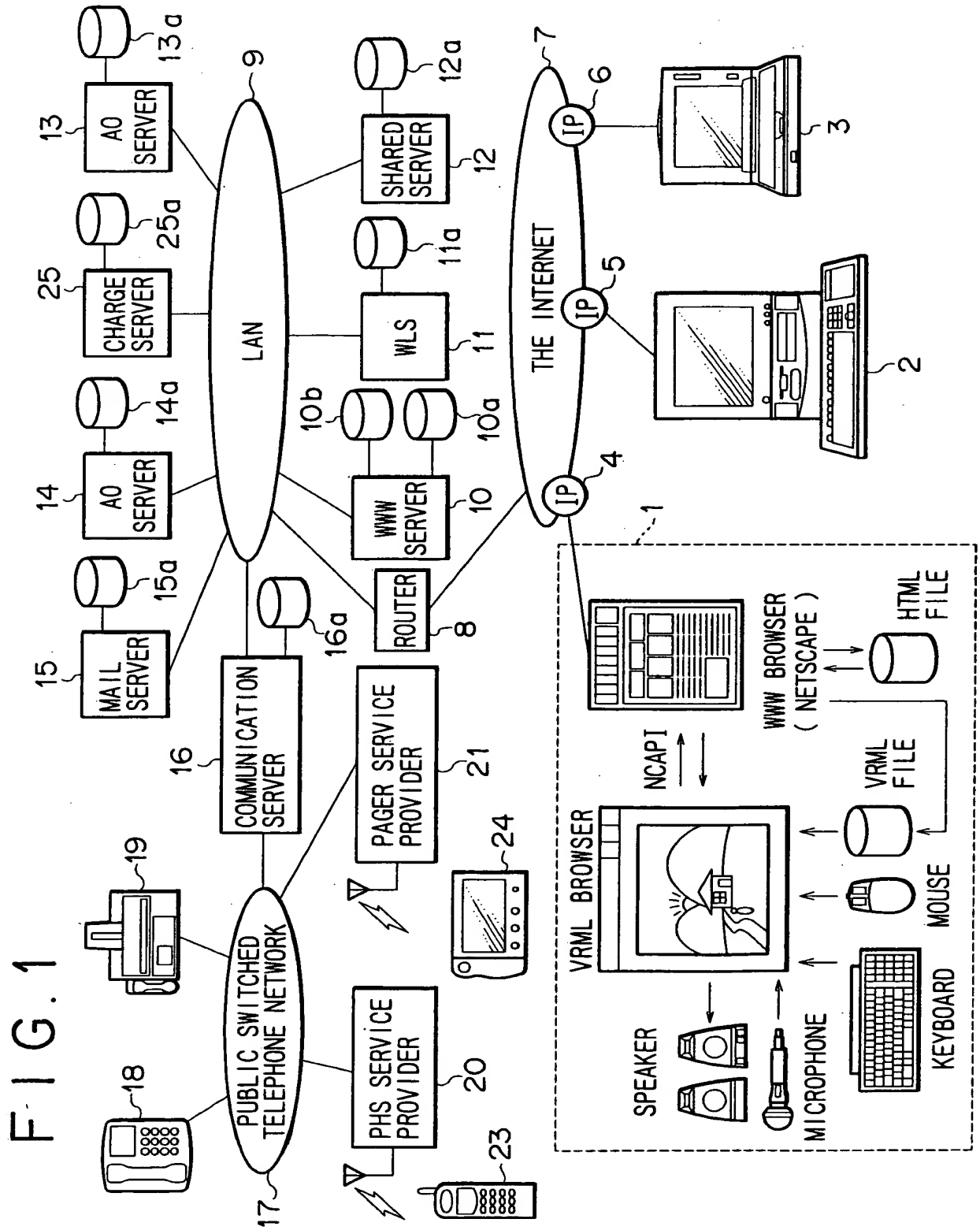
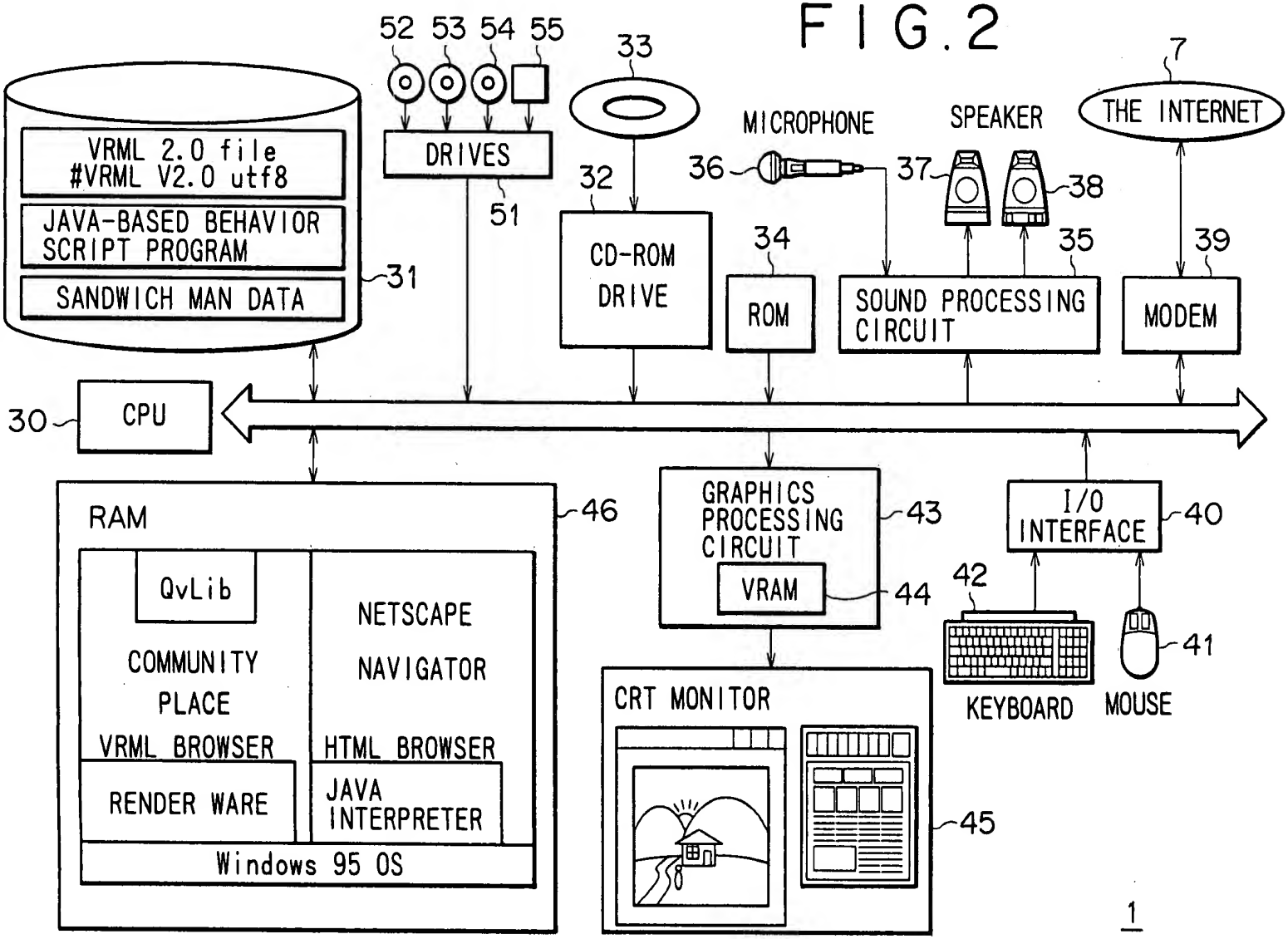
FIG. 1


AO SERVER
CHARGE SERVER
AO SERVER
MAIL SERVER
LAN
SHARED SERVER
WLS
WWW SERVER
ROUTER
THE INTERNET
IP
COMMUNICATION SERVER
PAGER SERVICE PROVIDER
PUBLIC SWITCHED TELEPHONE NETWORK
PHS SERVICE PROVIDER
VRML BROWSER
NCAPI
WWW BROWSER (NETSCAPE)
HTML FILE
VRML FILE
SPEAKER
MICROPHONE
KEYBOARD
MOUSE

TOSHIBA TAITAGO

FIG. 2



1

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FIG. 3

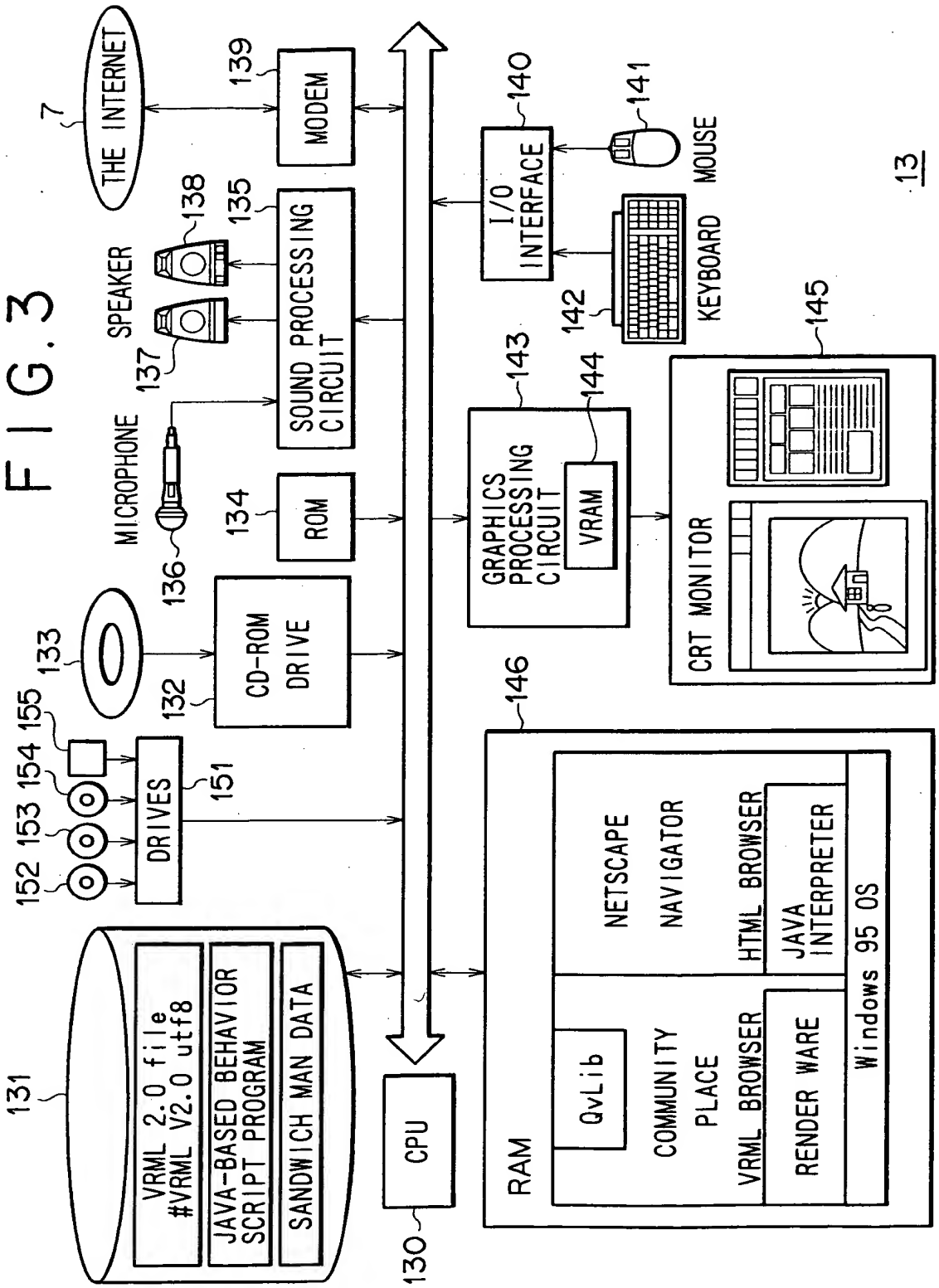

THE INTERNET
7
MODEM
139
I/O INTERFACE
140
MOUSE
141
KEYBOARD
142
SPEAKER
138
137
SOUND PROCESSING CIRCUIT
135
MICROPHONE
136
ROM
134
CD-ROM DRIVE
132
133
DRIVES
151
152 153 154 155
GRAPHICS PROCESSING CIRCUIT
143
VRAM
144
CRT MONITOR
145
RAM
146
NETSCAPE NAVIGATOR
HTML BROWSER
JAVA INTERPRETER
Windows 95 OS
QvLib
COMMUNITY PLACE
VRML BROWSER
RENDER WARE
CPU
130
131
VRML 2.0 file
#VRML V2.0 utf8
JAVA-BASED BEHAVIOR
SCRIPT PROGRAM
SANDWICH MAN DATA
13

FIG. 4

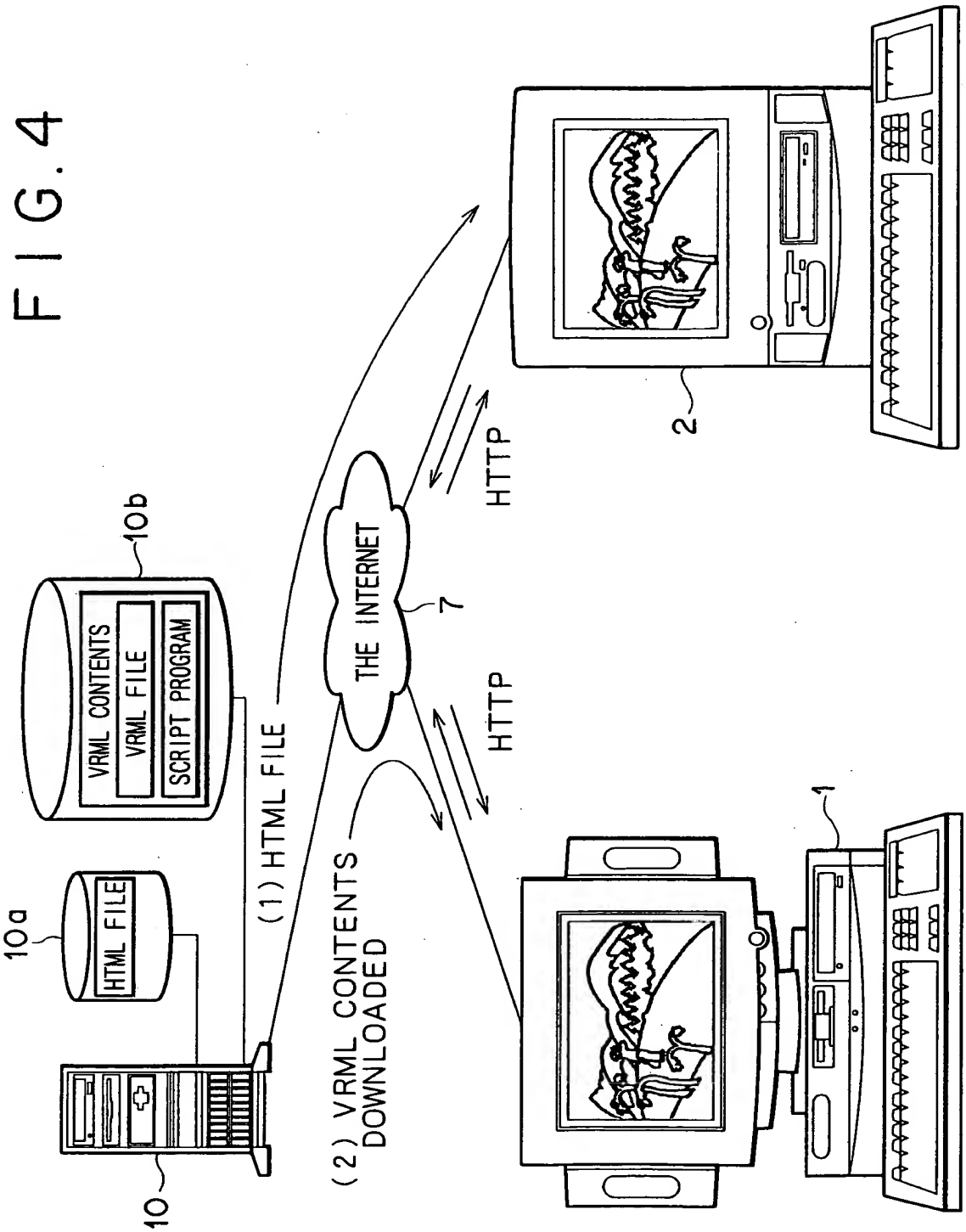

10b
VRML CONTENTS
VRML FILE
SCRIPT PROGRAM
10a
HTML FILE
10
(1) HTML FILE
(2) VRML CONTENTS DOWNLOADED
THE INTERNET
7
HTTP
HTTP
2
1

FIG. 5

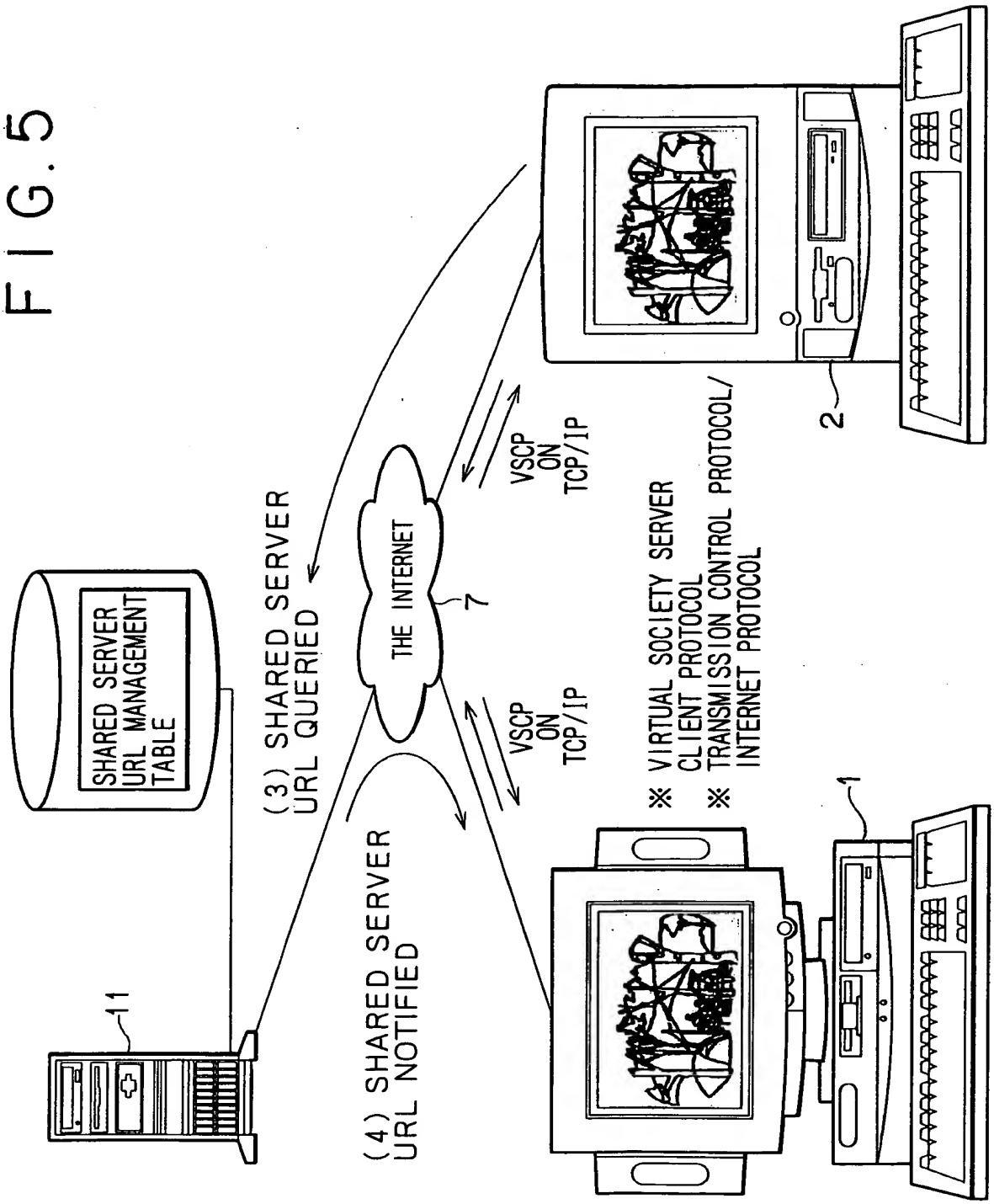

SHARED SERVER URL MANAGEMENT TABLE
11
(3) SHARED SERVER URL QUERIED
(4) SHARED SERVER URL NOTIFIED
THE INTERNET
7
VSCP ON TCP/IP
VSCP ON TCP/IP
※ VIRTUAL SOCIETY SERVER CLIENT PROTOCOL
※ TRANSMISSION CONTROL PROTOCOL/ INTERNET PROTOCOL
2
1

FIG.6

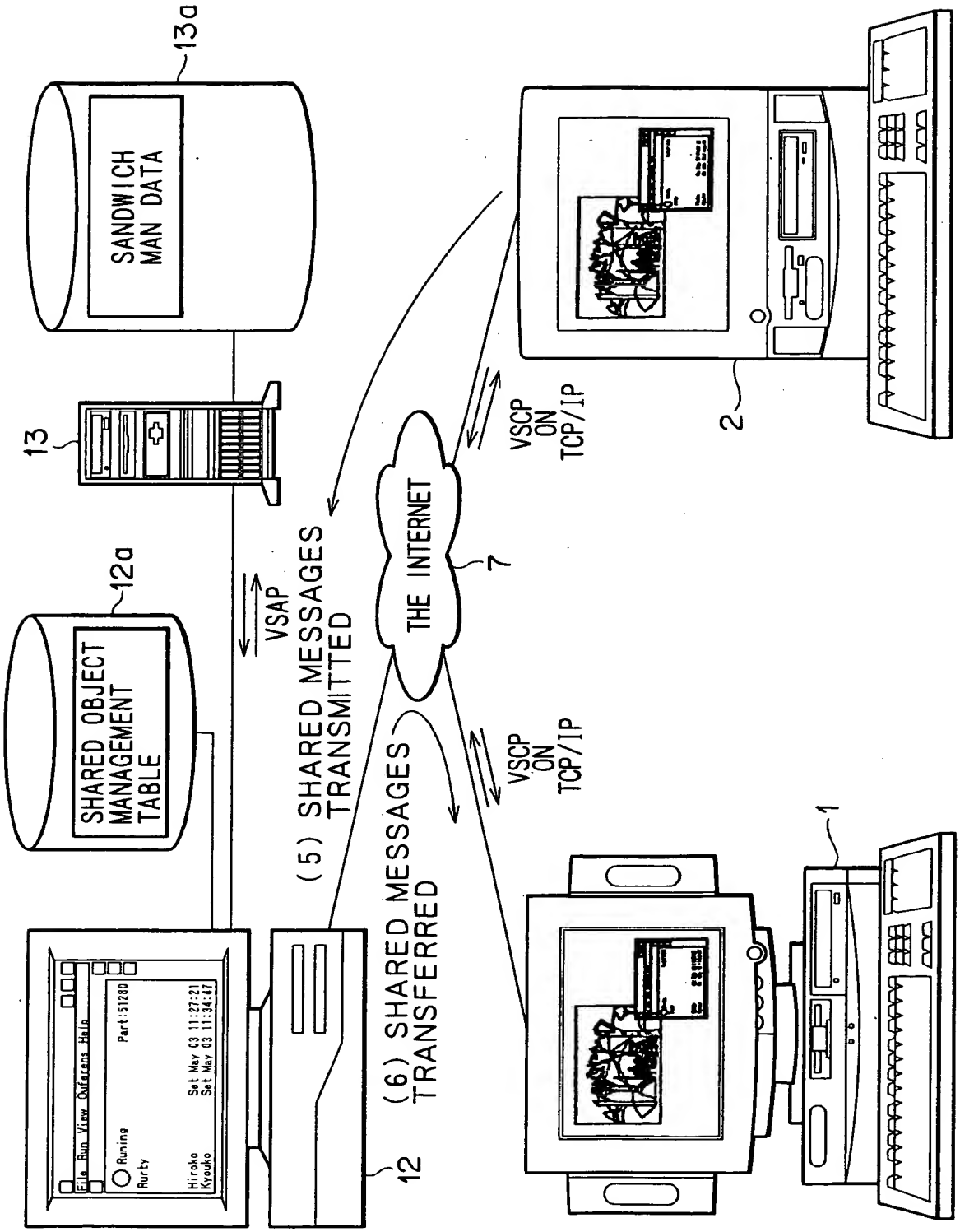

13a
SANDWICH MAN DATA
13
12a
SHARED OBJECT MANAGEMENT TABLE
VSAP
(5) SHARED MESSAGES TRANSMITTED
(6) SHARED MESSAGES TRANSFERRED
THE INTERNET
7
VSCP ON TCP/IP
VSCP ON TCP/IP
2
1
12
File Run View Options Help
Runing
Rurty
Part:51200
Hiroko
Kyouko
Sat May 03 11:27:21
Sat May 03 11:34:47

FIG. 7

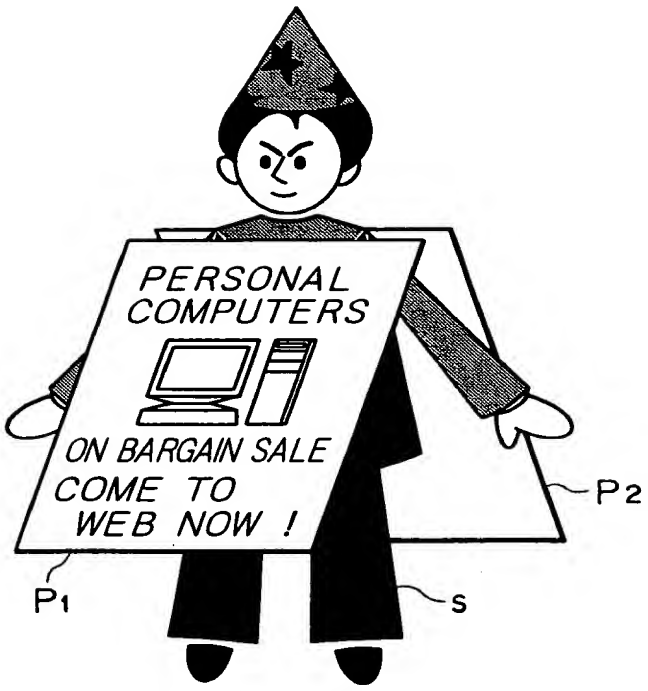
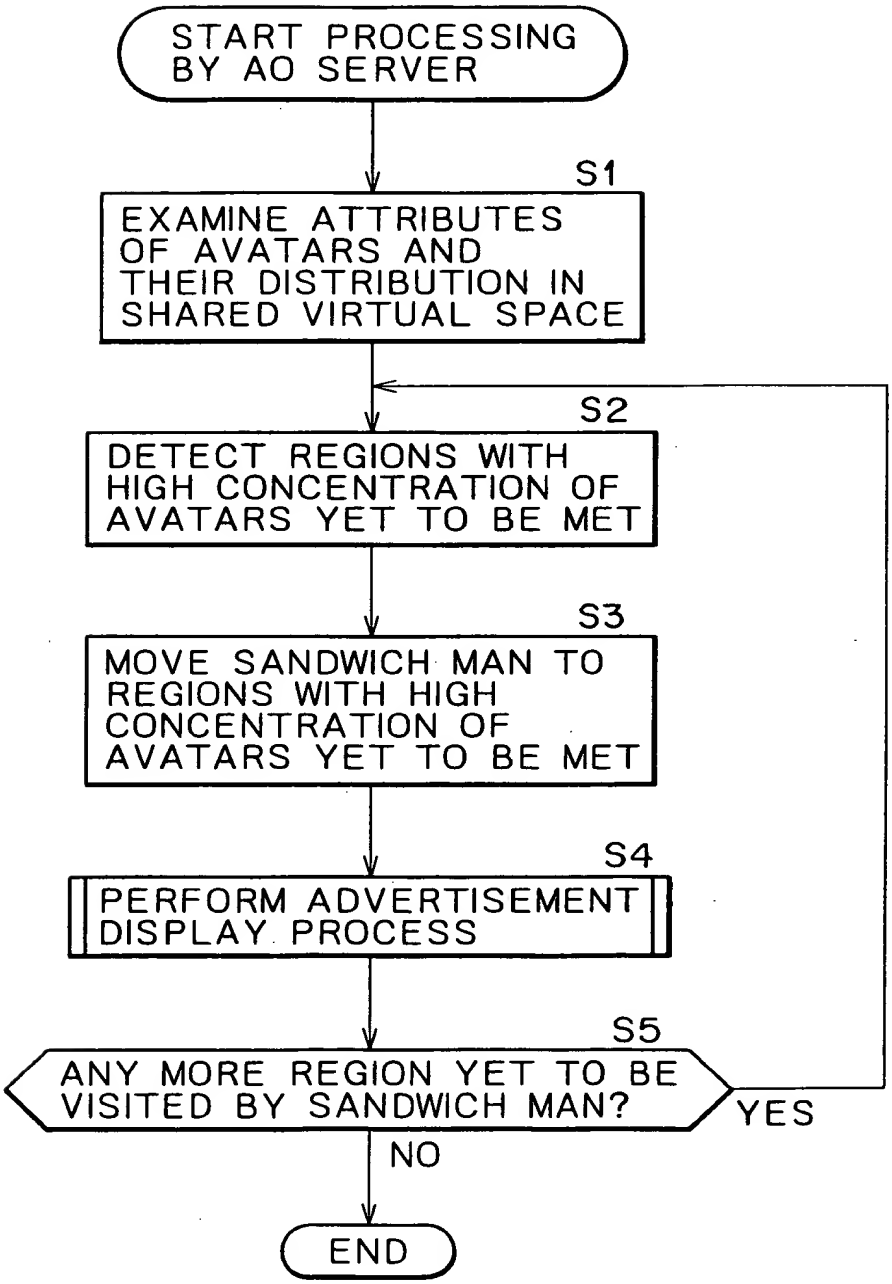


FIG. 8


START PROCESSING BY AO SERVER
S1
EXAMINE ATTRIBUTES OF AVATARS AND THEIR DISTRIBUTION IN SHARED VIRTUAL SPACE
S2
DETECT REGIONS WITH HIGH CONCENTRATION OF AVATARS YET TO BE MET
S3
MOVE SANDWICH MAN TO REGIONS WITH HIGH CONCENTRATION OF AVATARS YET TO BE MET
S4
PERFORM ADVERTISEMENT DISPLAY PROCESS
S5
ANY MORE REGION YET TO BE VISITED BY SANDWICH MAN?
YES
NO
END

TOSHIBA TH0TH860

FIG.9

AVATARS	SANDWICH MAN "s"			
	ATRIBUTES OF AVATARS (NUMBER OF TIMES EACH AD IS VIEWED BY EACH AVATAR)			
	CURRENT COORDINATES	ADVERTISEMENT A_1	ADVERTISEMENT A_2	ADVERTISEMENT A_3
a	Xa Ya Za	1	0	0
b	Xb Yb Zb	1	2	0
c	Xc Yc Zc	1	0	0
d	Xd Yd Zd	2	3	0
e	Xe Ye Ze	1	0	0
f	Xf Yf Zf	1	0	0
g	Xg Yg Zg	0	1	0
h	Xh Yh Zh	1	0	0
i	Xi Yi Zi	0	0	0

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FIG.10

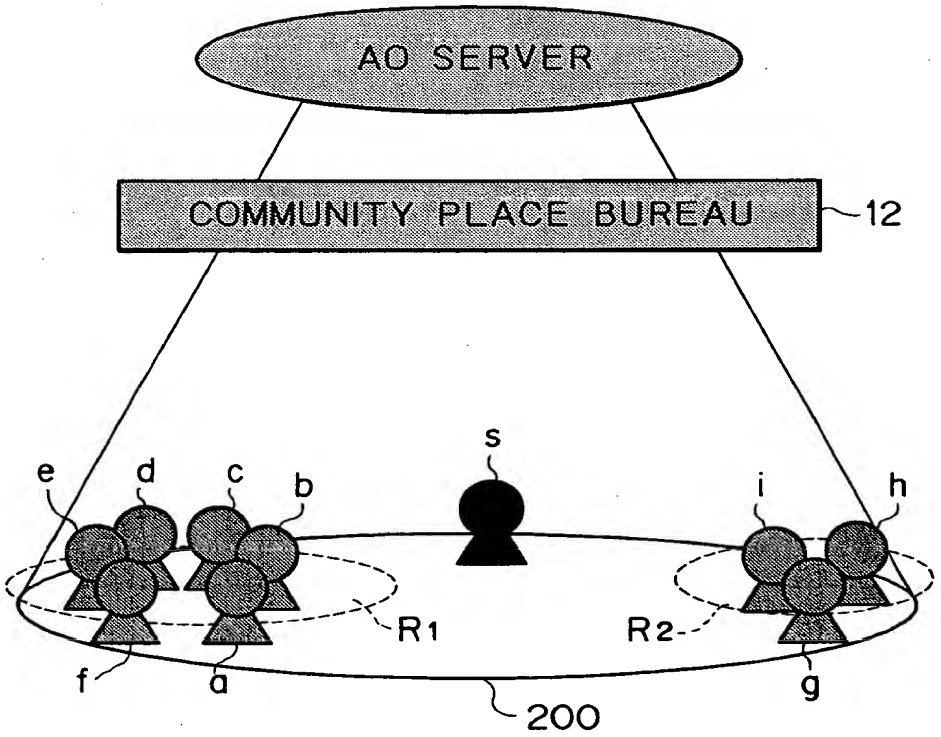


FIG.11

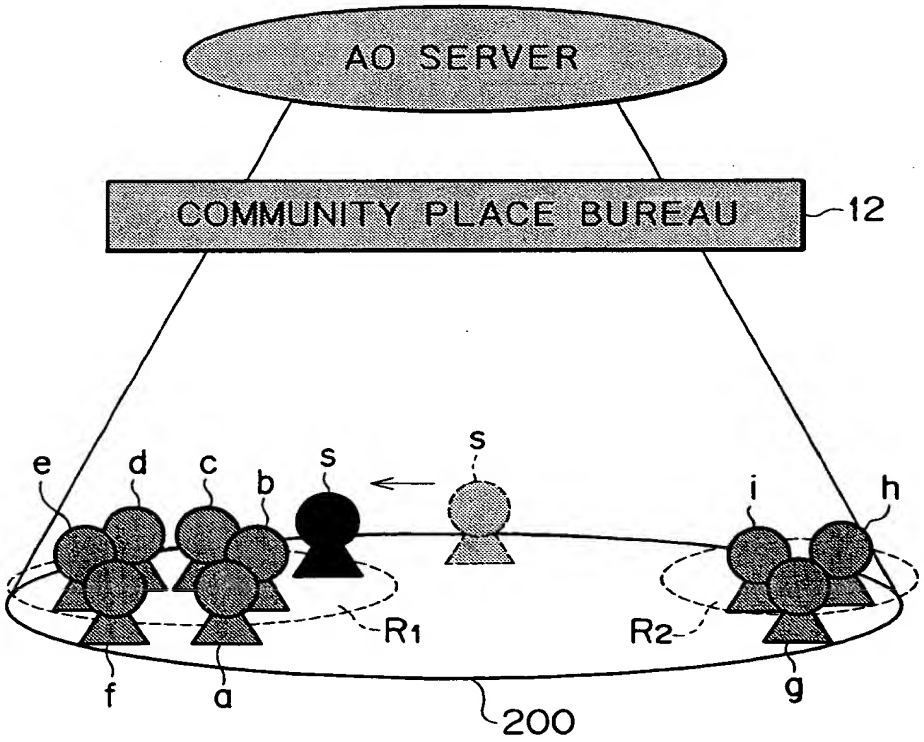


FIG.12

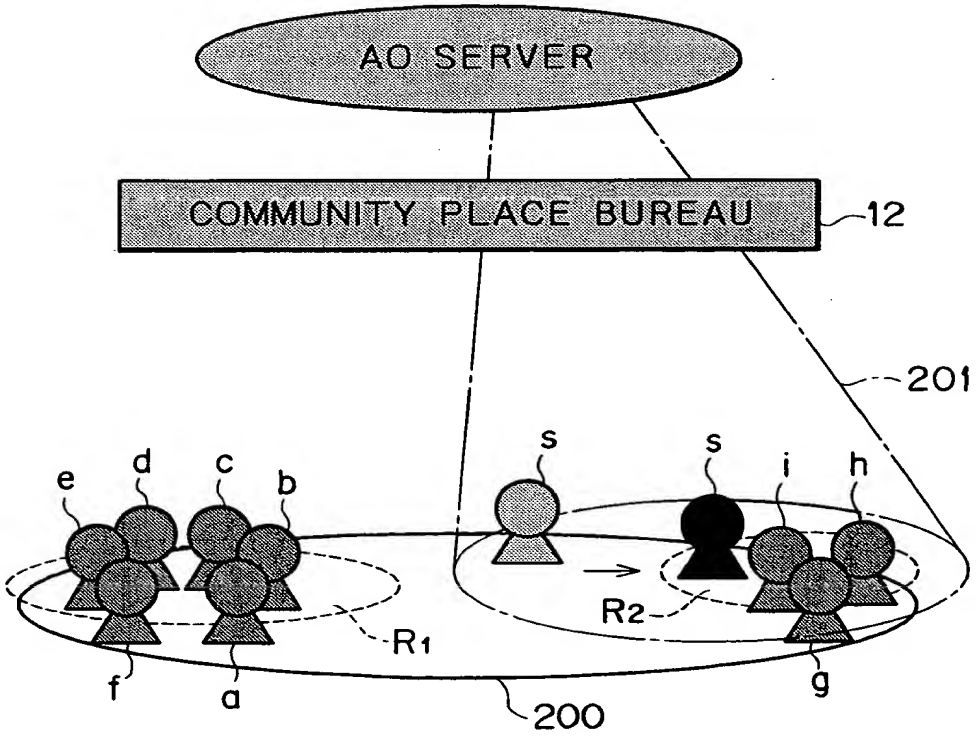

AO SERVER
COMMUNITY PLACE BUREAU
12
201
e
d
c
b
s
s
i
h
R1
R2
f
a
g
200

FIG.13

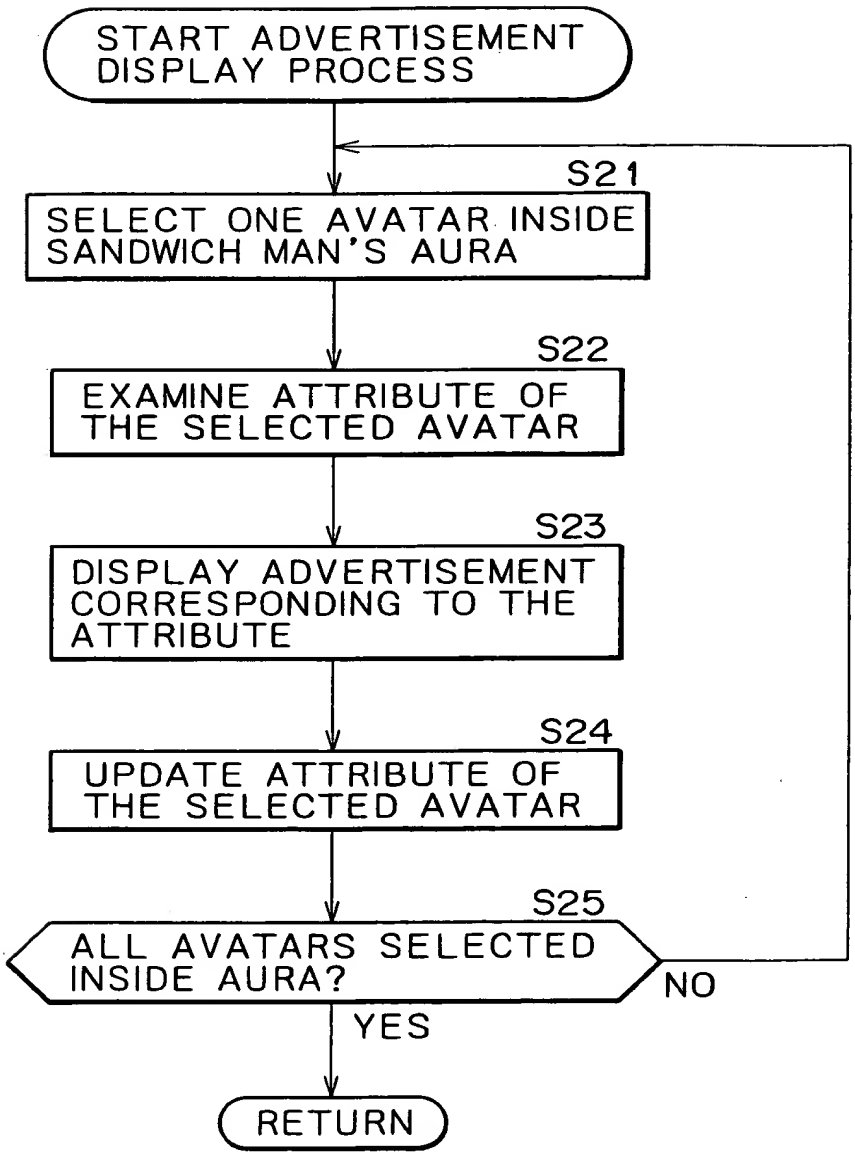

START ADVERTISEMENT DISPLAY PROCESS
S21
SELECT ONE AVATAR INSIDE SANDWICH MAN'S AURA
S22
EXAMINE ATTRIBUTE OF THE SELECTED AVATAR
S23
DISPLAY ADVERTISEMENT CORRESPONDING TO THE ATTRIBUTE
S24
UPDATE ATTRIBUTE OF THE SELECTED AVATAR
S25
ALL AVATARS SELECTED INSIDE AURA?
NO
YES
RETURN

FIG.14

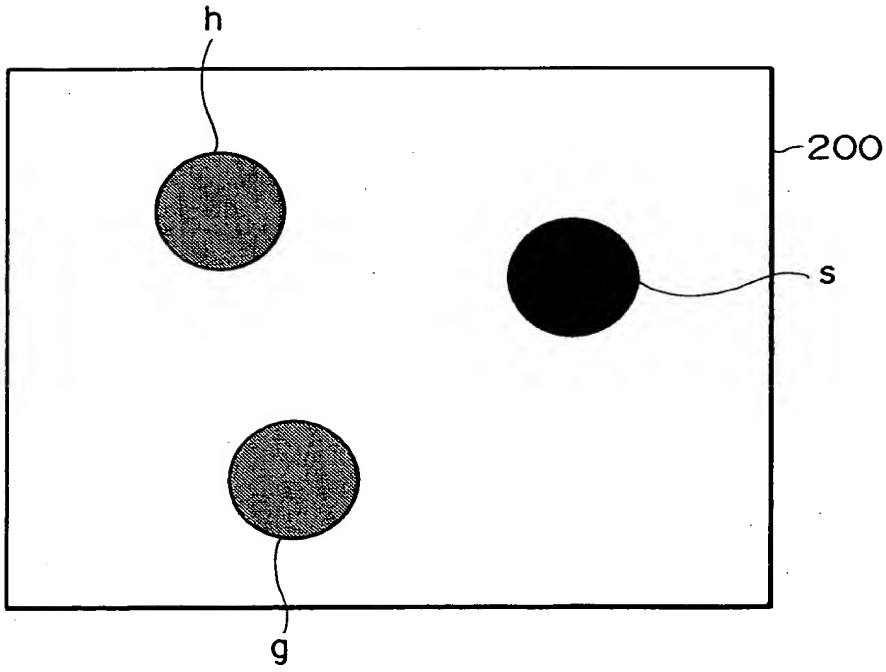
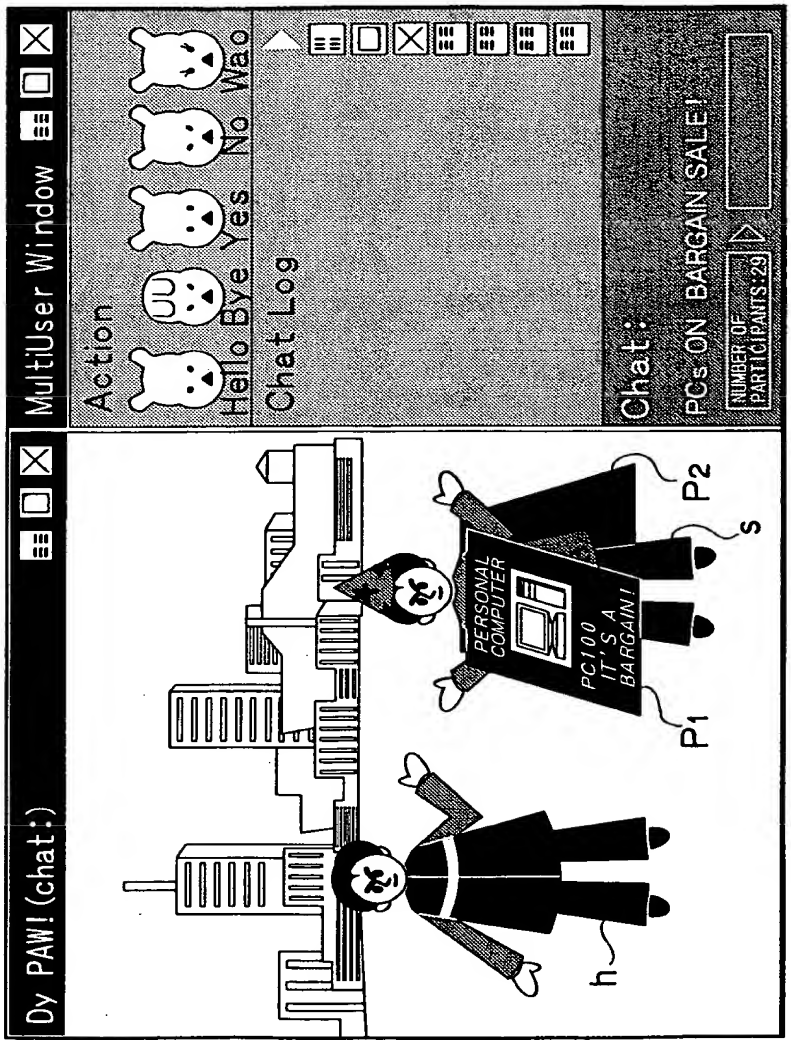
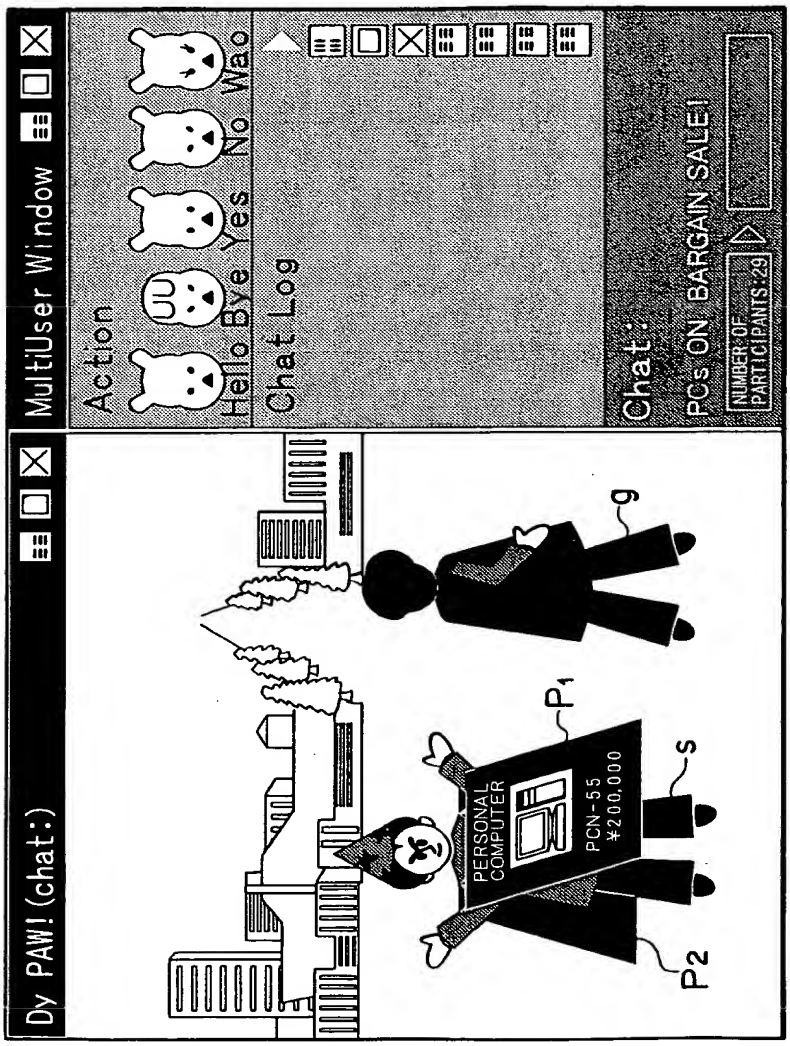


FIG.15



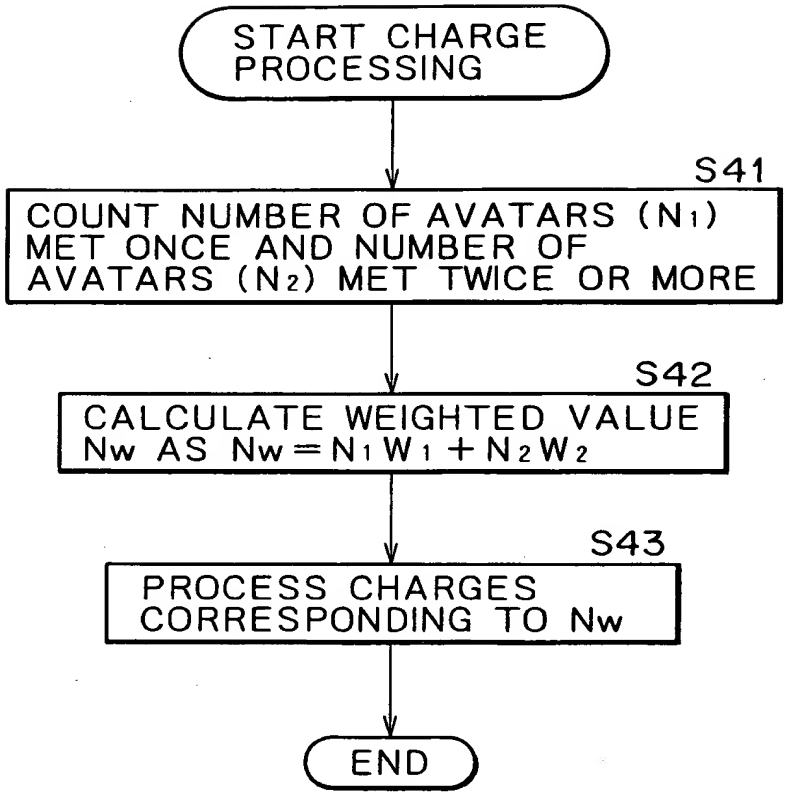
USER G'S BROWSER SCREEN

FIG.16



USER H'S BROWSER SCREEN

FIG.17


START CHARGE PROCESSING
S41
COUNT NUMBER OF AVATARS (N_1) MET ONCE AND NUMBER OF AVATARS (N_2) MET TWICE OR MORE
S42
CALCULATE WEIGHTED VALUE Nw AS $Nw = N_1W_1 + N_2W_2$
S43
PROCESS CHARGES CORRESPONDING TO Nw
END